

## OCULAR HEALTH PROMOTIVE AYURVEDIC MEASURES FOR DIGITAL EYE STRAIN IN CURRENT COVID-19 PANDEMIC

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### ABSTRACT

Increased screen time during COVID-19 pandemic has multiple undesirable effects on the eye. Risk of digital eye strain has recently risen to a mounting level against the backdrop of Corona virus pandemic. Digital eye strain is an emerging public health threat to people of all ages. As the digital devices impact on eye health, multidisciplinary approach is the need of time to deal with this emerging threat. The aim of this review is to spread the awareness regarding integration of Ayurvedic concepts of eye health promotive & disease preventive measures among the practitioners, the public & all stake holders during COVID-19 era to tackle the digital eye strain. Comprehensive review related to various preventive and promotive eyecare in Ayurveda done with the help of Ayurvedic literatures, books and internet websites. Classical daily regimens explained in

*Ayurveda* like eye wash (*Netra prakshalana*), collyrium (*Anjana*), nasal applications of drugs (*Nasya*), foot massage with oil (*Padabhyanga*), rejuvenating drugs (*Rasayana*) & *Yoga* play important role in eye health maintenance along with prevention of eye diseases. *Ayurvedic Siddhantas* are everlasting and can be applied in understanding, preventing and treating newer diseases like Digital Eye Strain.

**KEYWORDS:** Ayurveda, Daily regimen, Eye health care, Eyestrain, Prevention, Screen time.

## INTRODUCTION

Screen time has skyrocketed since the start of the COVID-19 pandemic. We need to go online for school, for work, for shopping, and for entertainment also. An increased use of digital devices and screen time due to social distancing and stay at home orders may result in raised in eye strain or other ocular problem. Children are spending a lot of time in front of mobile screens or computers due to mandatory e-learning. These unlimited e-classes has rested over burden on already overburdened eyes.

Short high energy waves emitted by these devices can enter eyes and result in photochemical damage of the retinal cells; due to which person becomes susceptible to a variety of eye problem like dry eye and age-related macular degeneration called as digital eye strain (DES).<sup>[1]</sup>

Digital screen exposure is directly proportional to Digital Eye Strain which is an emerging public health threat. Spreading awareness regarding potential impact of digital devices on the visual apparatus has become important than ever. As the digital devices affect the eye health, and it becomes more significant than ever to spread wakefulness about what potential impact these devices can have on the visual apparatus.<sup>[2]</sup> Excessive use of gadgets without adequate breaks can present with eye strain, ocular surface disorder especially dry eye & myopic progression.

By 2050 there is forecast of increase in myopic refractive error-about 50% of the world population.<sup>[3]</sup> Though Digital Eye Strain is affecting all age group, children are at more risk, as they may not complain at the earliest like adult. Even though the use of computers/gadgets had not been yet proven to cause any permanent damage to the eyes, studies have proven that temporary discomfort reduces the efficiency of work and thereby productivity.<sup>[4]</sup> This will significantly affect their vision, education, psychological development & quality of life.

Multi-disciplinary approach is the need of time to deal with this emerging threat. For prevention and management of these eye problems integration of Ayurvedic concept of promotive and preventive ophthalmology and principle of yoga are essential. Aim of *Ayurveda* is not only to treat the disease but also to prevent diseases. Among all sense organs

*Ayurveda* has given prime importance to the eye. *Vagbhatacharya* has given importance to preservation of vision and eye health by quoting that “one should always try to protect the eyes for preferred life because for the blind person, the day and the night are the same even though he may be wealthy.”<sup>[5]</sup> Eyes hold a special status among all sense organs. Out of eight clinical specialties of *Ashtangayurveda*, *Shalakya tantra* is one which is dedicated to ocular care and management.

According to *Ayurveda* factors responsible for development of all types of diseases including ophthalmic too are – <sup>[6]</sup>

- Misuse of senses and misuse of intellect.
- Incompatible contact of eye with visual objects results in an overstimulation or deficiency of sensory activity.
- Abnormal cycles of seasons (seasonal variations).

In the present COVID-19 pandemic over use or misuse of eyes is responsible for eye problems like Digital Eye Strain. In *Ayurveda* importance is given to daily regimen (*Dincharya*), seasonal regimen (*Ritucharya*), and specific local procedures like *Kriyakalpa* for preventing ophthalmic diseases and for maintaining fine vision. They are helpful for restoration of eye health and vision. These approaches can be simply practiced in everyday life to beat these emerging threats in current COVID-19 pandemic.

## MATERIAL AND METHODS

On description related to various preventive and promotive eye care in *Ayurveda* a comprehensive study was done with the help of *Samhitha* (Literatures), Ayurvedic books and internet websites.

In perspective of current day terminology and research study was done for possible integrative methodologies in eye care.

Essential Ayurvedic modalities for promotion of ocular health and avoidance of eye disease.

### 1. *Dincharya* (Daily regimen)

Daily regimen for maintaining good eye health includes eye wash (*Netra prakshalan*) and *Anjana* (Collyrium).

- **Eye wash (*Netraprakshalan*)**

Washing eyes with decoction of *Lodhra*(*symplocos racemosaroxb.*) in the morning helps in relieving eye strain and maintaining clear vision.<sup>[7]</sup>

- **Collyrium (*Anjana*)**

In *Anjana* medicine is applied along the inner surface of eyelids. Mainly *Sauveer-anjana* (medically processed antimony sulphide) and *Rasanjana* (solid extract of *Barberis aristata*) are practiced in daily regimen. Vision is mainly *Pitta (humour)* predominant in nature and should be protected from *Kapha Dosha (humour)*. By dissolving accumulated vitiated *Kapha*, *Anjana* drains it out in the form of tears. Daily practice of *Anjana* provide relief in burning sensation, itching, dirt, moistness, pain in eyes, accommodation dysfunctions which are mainly seen in Digital Eye Strain.<sup>[8]</sup>

- **Bath (*Snana*)**

Sense organs get freshness with bath. Body bath with hot water and head bath with cold water promotes eye health.<sup>[9]</sup>

- ***Shiroabhyanga* (Head-massage)**

Medicated oil application on head acts as *Drushti prasada* i.e vision promotive. It nourishes all sense organs and acts as a preventive measure for sense organs disorders.<sup>[10]</sup>

- **Oil massage on feet (*Padabhyanga*)**

As per literature care of feet is essential for prevention of eye diseases. Foot is the end organ; it is very sensitive. Sympathetic and parasympathetic supply in the eye reflects stimulation of nerve ending of the foot. So, washing of feet with clean water and application of oil over soles reduces eye strain and confers clear vision.<sup>[11]</sup>

- ***Nasya* (Instillation of nasal drops)**

In *Nasya* medications are applied to nostrils in particular way to nourish organs above clavicle. As nasal cavity acts like a natural gateway to brain as it has direct communication with sensory neural structures of brain. Practice of *Pratimarsh Nasya* of *Anutaila* (small dose of medicated oil 1-2 drops) provides better vision and power of sense organs remain better.<sup>[12]</sup>

## 2. *Trayopasthambha* (3-subpillars of life)

I.e *Ahara*, *Nidra* and *Brahmacharya* plays important role in maintaining eye health. Improper diet and control of hunger affects visual perception. A dietary factor which adversely affects the eye leads to reduced vision and blindness.<sup>[13]</sup> Sound sleep is necessary as it is revitalizes the mind and body. Eyes are at complete rest and retain functional capacity during sleep, so daily 6-8 hrs sleep is important to prevent sleep deprivation. Eye disorders like dry eye, floppy eye lid syndrome, asthenopic symptom. Self-control of sense organs is *Brahmacharya*.

- **Suppression of natural urges (*Vegadharana*)**

In current life style due to various reasons like busy work schedule people used to control natural urge which impact on whole body. Suppression of tear and sleep causes vitiation of *Vata* and leads to diseases of eye.<sup>[14]</sup>

## 3. *Yoga & Pranayam* (Breathing exercise)

For proper functioning of eyes balanced mental condition is important. Sense organs can perceive the object only in company of mind. *Pranayam* improves anxiety tolerance, provides peace of mind, improve circulation and reduces muscle tension. *Yoga* practice like *Trataka* (Staring at a near point) improves accommodation power and act as promotive measures for vision.<sup>[15]</sup> It helps in protecting vision from stresses of light, tension & environmental toxins. These non-drug therapies are much effective in ocular health by maintaining the normal functions of eye. *Yogasana* like *Matsya-asana*, eye exercises like palming, swinging helps to reduces eye strain and prevents refractive errors. A significant reduction was seen in eye fatigue with self- relaxing yogic eye exercises followed by the ergonomic advices.<sup>[16]</sup>

## 4. *Rasayan* (Rejuvenating therapy)

i.e rejuvenating drugs specially for eye health promotion like *Triphala Ghrita* and *Yashtimadhu Ghrita*, *Saptamruta Loha* has been advised. *Ghrita* (ghee) and *Navaneeta* (Butter) are extremely rich in Vitamin A, D, E, and K.<sup>[17]</sup> Daily consumption of these drugs provide strength to eye sight. Being antioxidant, inhibit oxidation process & production of free radicals causing damage to cell. *Rasayana* drugs maintain physiology of eye & extend length of particular tissues.

## 5. *Kriyakalpa*

Special therapeutics procedures i.e *kriyakalpa* which includes *Tarpana* (Oleation of eyes), *Aschyotana* (Eye drops) and *Anjana* act as both preventive and curative therapy for

maintaining normal health and condition of eyes. *Netra Tarpana* nourishes dry eye. Preparations used for *Netra Tarpana* are lipid based which are easily absorbed through corneal layers & have desired effects.

## DISCUSSION

In the present COVID-19 pandemic Digital Eye Strain & myopia progression have become a major threat to the mankind. Eyes being the delicate organ they should be free from stress & near watching activities for a longer duration. But in current scenario a lot of stress, eyes have to bear & limit resistant against eye issues. Digital Eye Strain can be minimized by multidisciplinary approach. *Ayurveda* has a very broad knowledge regarding eyes including its disorders & treatment which is useful to neutralize the today 'stressed life style over eyes. These measures delay degenerative process in the retina & nourish the visual structures. Hence, to reduce incidence of Digital Eye Strain, adaptation of ocular health promotive Ayurvedic modalities is important, as these modalities are equivalent to treatment modalities in fighting with the disease.<sup>[18]</sup>

## CONCLUSION

Ocular health promotive Ayurvedic modalities like eye wash, collyrium, foot massage, *Kriyakalpa*, *Pranayam*, *Yoga* along with eye rejuvenating drugs can help considerably in reducing the effect of excessive screen exposure on eyes. So, *Ayurveda* is one of the time tested & effective medical system which is beneficial to keep our eyes healthy. Hence along with educating on social distancing & hand hygiene, eye & visual health awareness with integration of Ayurvedic visual health promotive measures should to be reach in all possible ways both now & in times to come.

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